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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/507,174	09/10/2004	Christopher White	038665.55362US	8963
23911	7590	08/09/2006	EXAMINER	
CROWELL & MORING LLP INTELLECTUAL PROPERTY GROUP P.O. BOX 14300 WASHINGTON, DC 20044-4300			RADI, JOHN A	
			ART UNIT	PAPER NUMBER
			3641	

DATE MAILED: 08/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/507,174

**Applicant(s)**

WHITE ET AL.

**Examiner**

John A. Radi

**Art Unit**

3641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                                                              |                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                                  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/10/04</u> . | 6) <input type="checkbox"/> Other: _____                                                |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5-7 rejected under 35 U.S.C. 102(b) as being anticipated by Sjoberg (EP 0 401 184). Sjoberg teaches an ordnance (10) comprising a cavity (9) filled with explosive materials (4, explosivle plastic/polymer), said explosive materials being contained in a bag (1) within said cavity.

With respect to claim 2, wherein the bag is made of an elastomeric material (col 3 line 19 – plastic or leather, elastomeric referring to a flexible membrane).

With respect to claim 3, wherein the bag has a volume less than that of the cavity (fig 1).

With respect to claim 5, wherein the bag is inserted into the explosives cavity and filled with explosive materials (fig 1), note that as the bag enters the cavity it is simultaneously filled with material.

With respect to claim 6, wherein the bag is forced against the inner walls of the cavity by the action of a vacuum (col 4 line 10 – “vacuumizing of the shell”).

With respect to claim 7, wherein a differential vacuum is produced between the bag and inner cavity wall and the main explosives cavity (fig 4 shows that the contents of the bag is greater than atmosphere whereas the cavity is at a vacuum creating the vacuum differential – see also sjoberg claim 3).

Art Unit: 3641

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 3641

Claim 4 rejected under 35 U.S.C. 103(a) as being unpatentable over Sjoberg (EP 0 401 184). Sjoberg teaches the invention as described above with respect to claim 1 but doesn't teach that the volume of the bag is 5-10% less than that of the explosives cavity. Because Sjoberg teaches that it would be optimal to have the bag fit closely against the casing rather than be baggy and bunched with air gaps, it would have been obvious to one having ordinary skill in the art at the time the invention was made to ensure the bag was smaller than that of the casing so that it would stretch under vacuum against the casing side, and therefore the actual size of 5-10% smaller would have merely required the discovering the optimum value of a result effective variable involving only routine skill in the art. See *In re Boesch*, 617 F.2d 272, 205 USPQ 215.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sjoberg as applied to claims 1 above, and further in view of Pyle (4,503,994). Sjoberg discloses the claimed invention as described above, but does not disclose the controller comprising at least one fiber optic sensor. Pyle discloses a fiber-optic liquid level sensing device that will shut off the flow of fluid when it reaches a certain height. Pyle and Sjoberg are analogous arts in so far as both are drawn towards filling methods. Conventional means for performing this task may have been as simple as a technician observing the level of explosive in the borehole or ordnance and adjusting the motor/pump accordingly. To one of ordinary skill in the art, though, this is inefficient and it would be optimal to replace this with a more precise, non-human measuring tool to fill the container to a predetermined level (col. 1 lines 15-16), and a fiber-optic shutoff system is

Art Unit: 3641

disclosed. It would have been obvious to one of ordinary skill in the art to modify the explosives mixer of Sjoberg to use a fiber-optic sensing device (as disclosed by Pyle) to determine when the bore hole or ordnance has been filled to the top, since such a modification would allow for the device to run more automatically and not require the constant input and monitoring of a human user.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See attached PTO-892.

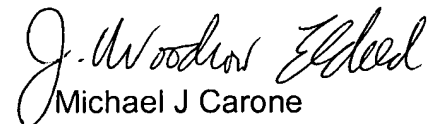
Any inquiry concerning this communication or earlier communications from the examiner should be directed to John A. Radi whose telephone number is 571-272-5883. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael J. Carone can be reached on 571-272-6873. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3641

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

John A Radi  
Patent Examiner  
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for Michael J Carone  
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